

Characterization of Red Sea Bream (*Pagrus major*) Interferon Regulatory Factor 5 and 6 Genes and Their Expression in Response to RSIV Infection

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Supplementary material

A

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
 ATGAGCGTGCAGCCTCGGAGGATCCGCTCTGAAGCCCTGGTTGTGGCTCAGGTGAACAGCGGCAGGTATCCTGGTCTCCAGTGGCTCAGTCCAGACCACCGACTCTTCCAGATCCCCTGGAAACACGCCACGCCACGCCAGCGTCC
 M S V Q P R R I R L K P W L L A Q V N S G R Y P G L Q W L S P D H R L F Q I P W K H A T R H T P A S

160 170 180 190 200 210 220 230 240 250 260 270 280 290 300
 GACGACGAGAACACCATCTTCAAGGCATGGGCTCTGGAGACAGGTAAATATCAGGAAGGTGTGGATGAACCCGACCCGCGAAGTGAAGCGAACCTTCGCTGTGCTCTGAACAAAAGTCGAGAGTTTCAGCTGAAATATGACGGAACG
 D D E N T I F K A W A L E T G K Y Q E G V D E P D P A K W K A N L R C A L N K S R E F Q L K Y D G T

310 320 330 340 350 360 370 380 390 400 410 420 430 440 450
 AAGGAGACGCCAGTTCAACCATATAAAATCTACGAAGTGTGTGAGCAGCCCGGAATACAGATGCTGGTGATGATGATGATGGTGAGGAGATACCGAATCTGATGGAGCTCTCAATCAACCCCTAGGAACAGTGACCCCGCCTCCTTCAGC
 K E T P V Q P Y K I Y E V C E Q P G N T D A G D D D D G E E I P N L M E L S I N P R N S D P A S F S

460 470 480 490 500 510 520 530 540 550 560 570 580 590 600
 TCCTTCAGTTCGTTCCAGACATCAGTTCAGTTTCAGTCTGTCCACCGGAGGACATTTGGACCTCCTCAGGTGATCCCGATCCCTCTGCTCCAGAACGAGTCTGCTCCATGACCTCAGACCTCCCATGACCCATCCTGCAGGACTCTCT
 S F T V R S D I S Q F S L S T G G T F G P P Q V I P I P L L P E R V V S M T S D L P M T H P A G L S

610 620 630 640 650 660 670 680 690 700 710 720 730 740 750
 AACGGACTCCAGGACCTGAATCCTCTGCCCCCTCTGCTGCTCTGCTGCCCCGAGCCGCGCCTGATGGAAGCCAGCAGCATGGGGGGCGCCAGAACCCAGACAGATGGTCAGAACCCACCCCTGCAAGTACGACCTGCTGAGCAGC
 N G L Q D L N P L P P S A A S A A P E P A L M E A S S M G A Q N Q T D G Q N H Q P C K Y D L L S S

760 770 780 790 800 810 820 830 840 850 860 870 880 890 900
 ATCCCACTAACAGATCTAGACCTGAAATTCAGTACCGGGGCGGACGATGGGCTCTCTGACCCCTCAGTAAACCTCAGGGCTGCCGGTTGTACTACGGACACCTGGAGCCGACCCCGAGCAGGTGGACCTGTTTGGACCTGTCACCCCTG
 I P L T D L D L K F Q Y R G R T M G S L T V S N P Q G C R L Y Y G H L E P T P E Q V D L F G P V T L

910 920 930 940 950 960 970 980 990 1000 1010 1020 1030 1040 1050
 CAGCAGGTCTGTTCGCGGCACATCTGAGATCCAGAACAGAGCAGCGGTTCTACACTGAGGCCCTGCTAGATGTGATGGACCGTGGTCTGATCTGGAGATCTGGGAGCAGGACATCTATGCTGTCCGGCTCTGTTCAGTGTAAAGTG
 Q Q V L F P G T S E I Q N Q K Q R F Y T E A L L D V M D R G L I L E I W E Q D I Y A V R L C Q C K V

1060 1070 1080 1090 1100 1110 1120 1130 1140 1150 1160 1170 1180 1190 1200
 TTCTGGTCCGGACCCAGGCATGCCCGAACAGGGTCCACCAACCCGATGGAGAGGGAGAGGAAGATCAAGTGTTCAGCCTAAACGACTTCTGCAAGGACTGATCCTGTTCAGAGAGGTGAAGCTCAGAACCCCTCCACCCCTTCGATATC
 F W S G P G M P E Q G P P N P M E R E R K I K V F S L N D F L Q G L I L F Q R G E A Q N P P P F D I

1210 1220 1230 1240 1250 1260 1270 1280 1290 1300 1310 1320 1330 1340 1350
 ACCTTCTGCTTCGGGGAGGACTGGCTGACAAGAAGCCCAAGAGAAGAACTCAATTGCTCCAGGTGGTCCAGTGTGGCTCGGATCCTGACGGAGATGTTCTCTGGAGAAGTCAAGTGGTCCACAGACAGCATCCGCTGACGATC
 T F C F G E D W P D K K P K E K K L I V V Q V V P V V A R I L T E M F S G E L S W S T D S I R L Q I

1360 1370 1380 1390 1400 1410 1420 1430 1440 1450 1460
 TCARACCCGACGTGAAGGACAGACGGTGGAGCAGTTCAAGGAGCTGCAGAGGCTCCTGCAGAGCCACACATCCAGGGGCGCCTGGACCCCAATGTCCCCCTGA
 S N P D V K D Q T V E Q F K E L Q R L L Q S Q H I Q G P W T P N V P *

B

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
 ATGTACAGTACCCCTCGGCGTGTCCGGCTGAAGCCCTGGCTGGTCGCGCAGGTGGACAGCGGGCGATACCCGGGTCTGGTGTGGATGGACCGTGAGGCCATGCGCTTCAGGATTCCATGGAACACGCCACACGACACACACCCAGCAC
 M S V T P R R V R L K P W L V A Q V D S G R Y P G L V W M D R E A M R F R I P W K H A T R H T P Q H

160 170 180 190 200 210 220 230 240 250 260 270 280 290 300
 GAGGACGAGGACACCATATTTAAGCGTGGGCTGTAGAGACCGGGAAGTTCCAAGAGGGCGTTGATGAACCTGATCCTGCCAAGTGGAAAGCTCAGCTCCGATGTGCCCTGAACAAAGAGCCGAGATTCAACCTGGTCTATGACGGCACC
 E D E D T I F K A W A V E T G K F Q E G V D E P D P A K W K A Q L R C A L N K S R E F N L V Y D G T

310 320 330 340 350 360 370 380 390 400 410 420 430 440 450
 AAAGAGTCCCATGAACCTTTGAAGATATATGACGTCTGCGACATCCCGCAGCCGCTCAGTAACCAAGCTTCTTCAGACGCTGGTTCCTGGACTCCGCATGATGAAGAAGGTATTGAGGAAGATGTTCCAGATACACCAGAGTCTCTC
 K E V P M N P L K I Y D V C D I P Q P L S N Q A S S D A G S W T P H D E E G I E E D V P D T P E S L

460 470 480 490 500 510 520 530 540 550 560 570 580 590 600
 CCTCCGTACCATCCAATGGCACCAGCCCTCTCTCTCATGTGTCTCTATGGGCTCAGACTCCTCCATGCAGCCCCCAGCTGCCCCCATCAAACGAGGTCTGGCCCAAGAGGAGCCTGTTAAGATCTGGCCCAAGAGGAG
 P P Y P S N G T S P S P L I M W S P M G S D S S M Q P P S C P P S N E V W P K E E P V K I W P K E E

610 620 630 640 650 660 670 680 690 700 710 720 730 740 750
 CCTGTGGATGTGGAGATGCACCCACAAACCTGGCTGACATGCCCCCTGCTCTCTGCCCCGATCACTCGATGCAGCCCCCTCTCTACCTGACGCCCTGTTTGCCTCTCCGGAGACGTGGATCAGTTCCTCCCGATGACAGACCTGGAG
 P V D V E M H P T T L A D M P P A P L P D H S M Q P P P L P D A L F A S P E T W I S S L P M T D L E

760 770 780 790 800 810 820 830 840 850 860 870 880 890 900
 GTGACGTTCTGTACAGAGGAAAGGAGATGTGTCCACAGCCAAACCTCAGTAACCTCAGGGCTGCAGGCTGTTCTACGGAGACCTCGGCCCATGGTGAACCAAGGAGAGCTGTTTCGGCCCGGTGAACCTGGAGCAGCTGCGCTTCCCG
 V T F L Y R G K E M C P T A N V S N P Q G C R L F Y G D L G P M V N Q E E L F G P V N L E Q L R F P

910 920 930 940 950 960 970 980 990 1000 1010 1020 1030 1040 1050
 ACCACAGAGCACATCACCACGACAAAGCAGAGGGTCTTACCAGCCGCTGCTGGATGTGATGGACAGAGGCTGATCCTGGAGGTGACGGGCCACGATATCTACGCAGTCCGCTCTGCGCAGTCAAGGTGTACTGGTCGGGCCCTGT
 T T E H I T N D K Q R V F T S R L L D V M D R G L I L E V S G H D I Y A V R L C Q C K V Y W S G P C

1060 1070 1080 1090 1100 1110 1120 1130 1140 1150 1160 1170 1180 1190 1200
 GCTCCAAATCCAGCTGCACCAAATCTTATAGAGCGCCAGAGGAGGTCAAACATATTTGCTGGAGTCTTTTCTCAGTGGGGTGATAGCCACAGCGCGGTGACACCAATCCCCCTCAGTTTGAAATCAGCCTATGTTTGGAGAG
 A P N P A A P N L I E R Q R K V K L F C L E S F L S G V I A H Q R G Q T P I P P Q F E I S L C F G E

1210 1220 1230 1240 1250 1260 1270 1280 1290 1300 1310 1320 1330 1340 1350
 GAGTGGCTGTAGGGAGGCCCCGGGAGAGGAACTCATCATGGTTGATGCTTCCAGTGGTGGCCCGCATGATCACTGAGATGTTTACGGGAGACAACACACGATCCTTCGACAGCGGCAGCGTTCGCTGCGAGATTCAATCCCGGAC
 E W P D G R P R E R K L I M V Q I V P V V A R M I T E M F T G D N T R S F D S G S V R L Q I S I P D

1360 1370 1380 1390 1400 1410 1420 1430 1440 1450 1460 1470 1480
 ATCAAAGACAACATAGTGACCCACCTAAAGCAGCTGTACTGCTGCTACAGACCCACAGGGCCAGGACGGCTGGGCGCTGCCGCCCGGCCAGGCTGAACATCGTCCAGGTATGCAGGGACAGTGA
 I K D N I V T H L K Q L Y C L L Q T H Q G Q D G W A L P P G P G L N I V Q V M Q G Q *

Figure S1. (A) *PmIRF5* and (B) *PmIRF6* nucleotide sequence and translated amino acid sequence. The red box at the N-terminus indicates the DNA binding domain (DBD), and five conserved tryptophan residues are marked with arrows. The blue box at the C-terminus indicates the *IRF* association domain (IAD), and the viral-activated domain (VAD) is shown in the yellow box. The nuclear localization signals (NLS) are shown in green boxes.